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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,574	06/24/2005	Takeshi Kato	017700-0175	6415

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EXAMINER	
VIJAYAKUMAR, KALLAMBELLA M	
ART UNIT	PAPER NUMBER
1793	
MAIL DATE	DELIVERY MODE
12/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,574	KATO ET AL.	
	Examiner	Art Unit	
	KALLAMBELLA VIJAYAKUMAR	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

- Applicants amendment filed with the arguments on 09/25/2008 have been entered and fully considered. Claims 1 and 4 were amended. New claims 7-13 were added. Claims 1-13 as amended are currently pending with the application.
- Applicant's amendment to drawing filed on 12/10/2008 has been entered.

Claim Rejections under 35 USC 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Ayai (WO 2004/013871 as evidenced by equivalent US 7,293,343).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Avai teaches a BSCCO-2223 tape containing the superconductor material in a silver tube and having a theoretical density that is assumed to be 100%. The tape was made by filling the silver tube with precursors and heat treating the structure (Cl-4, Ln 5 to Cl-5, Ln-40; Cl 6-10, Ex 1 and 2; Cl-11, Ln 1-5). All the limitations of the instant claims are met.

The reference is anticipatory.

Claim Rejections under 35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-13 rejected under 35 U.S.C. 103(a) as being obvious over Ayai (WO 2004/013871 as evidenced by US 7,293,343).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2). .

Ayai teaches a BSCCO-2223 tape containing the superconductor material in a silver tube and having a theoretical density that is assumed to be 100%. The tape was made by filling the silver tube with precursors and heat treating the structure (Cl-4, Ln 5 to Cl-5, Ln-40; Cl 6-10, Ex 1 and 2; Cl-11, Ln 1-5).

Ayai is silent about the exact theoretical density per the claims.

However, the assumed 100% for theoretical density overlaps with the instant claimed ranges and In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990)..

2. Claims 1-13 are rejected under 35 U.S.C. 103(a) as obvious over Li et al (US 6,247,224).

Li et al teach a multifilamentary tape comprising a BSCCO-2223 oxide superconductor with a filament density of $\geq$ 95% theoretical density (Abstract, Cl 15, Ln 23-33). The BSCCO-

2223 oxide contained the elements Bi:Pb:Sr:Ca:Cu in the ratio of 1.74:0.34:1.91:2.03:3.07 (Cl 21-22, Ex-1). The tape meets the limitation of device in the claims. With regard to the method claims, the prior art teaches filing the oxide/precursor into a silver tube, subject to high degree of reduction in a single step and sinter the composite forming the tape (Cl-19, Ln 34-39; Cl 21-22, Ex-1).

The prior art fails to provide a working example with a sintering density of at least 93% per the claims 1-2, 4-5 and 11-12.

However, it would have nonetheless been obvious to the skilled artisan over the prior art disclosure to produce the claimed wire because the reference teaches each of the claimed ingredients within the structure including attaining higher densities by high reduction rolling (Cl-15, Ln 23-25), and further teaches that sintering conditions could be optimized to attain desired density and texture (Cl-18, Ln 44-53).

With regard to claims 3, 6 and 13, the prior art teaches making an article with a density of >95% that would encompass a range of 95-100%, and teaches all the elements of making the tape, and it would have been obvious to a person of ordinary skilled in the art the optimize the process conditions by routine experimentation over the teachings of the prior attain desired density, and "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). See also *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (prior art suggested proportional balancing to achieve desired results in the formation of an alloy).

With regard to claims 7-10, the prior art teaches sintering the BSCCO filled silver tube, and, and process limitations cannot serve to impart patentability to structures. In re Dike, 157 USPQ 581, 585 (CCPA 1968).

3. Claims 1-13 are rejected under 35 U.S.C. 103(a) as obvious over Li et al (US 6,555,503).

Li et al teach a multifilamentary tape comprising a BSCCO-2223 oxide superconductor with a filament density of $\geq$ 90% theoretical density (Abstract, Cl –9, Ln 64- to Cl-10, Ln-8). With regard to the method claims, the prior art teaches making the tape containing BSCCO-2223 oxide by filling a silver tube with tetragonal BSCCO-0011 and BSCCO-2212, drawing the P-I-T into a wire and heat treating the sample to attain sample with a density of about 90% and a fill factor of about 90% (Cl 14, Ex-1). The tape meets the limitation of device/wire in the claims. The prior art teaches filing the oxide/precursor into a silver tube, subject to high degree of reduction in a single step and sinter the composite forming the tape (Cl-19, Ln 34-39; Cl 21-22, Ex-1). The instant claim limitation requires the oxide phase to have specific theoretical density.

The prior art fails to provide a working example with a sintering density of at least 93% per the claims 1, 4 and 11.

However, the prior art teaches a density of about 90% that would touch or lie close to the instant claimed range of at least 93%, and a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

With regard to claims 2-3, 5-6and 12-13, the prior art teaches making an article with a density of >90% that would encompass a range of 90-100%, and teaches all the elements of making the tape, and it would have been obvious to a person of ordinary skilled in the art the optimize the process conditions by routine experimentation over the teachings of the prior art to attain desired density, and "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). See also *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (prior art suggested proportional balancing to achieve desired results in the formation of an alloy).

With regard to claims 7-10, the prior art teaches sintering the BSCCO filled silver tube, and, and process limitations cannot serve to impart patentability to structures. In re Dike, 157 USPQ 581, 585 (CCPA 1968).

Response to Applicants Arguments

- Applicants arguments filed 9/25/08 have been fully considered. The prior rejections under 35 USC 102(b) over Li (US-224) and rejections over Ikeno (US-527) are withdrawn.
- In response to the argument that Li (US-224) discloses a sample with a rolling density of 80% and fails to teach the instant claimed values, (Res, Pg-12, Para-2), the prior art teaches a high reduction rolling of greater than 95% (Cl 15, Ln 23-33); and "[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw there from." In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

- In response to the argument that Li removes the shell by dissolution (Res, Pg-12, Para-1; Pg-13, Para-1), Li clearly teaches filling silver billet with precursors, drawing the PIT and sintering the sample, wherein no silver sheath is removed during evaluation (Cl 21-22, Ex-1). The cited removal of sheath was done for the examination of the structure by micrograph (Cl-21, Ln 20-35).
- For the reasons set forth above, applicants fail to patentably distinguish their process and device/wire over the prior art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KALLAMBELLA VIJAYAKUMAR whose telephone number is (571)272-1324. The examiner can normally be reached on M-F 07-3.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 5712721358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KMV/
Dec 20, 2008.

/Stuart Hendrickson/
Primary Examiner, Art Unit 1793